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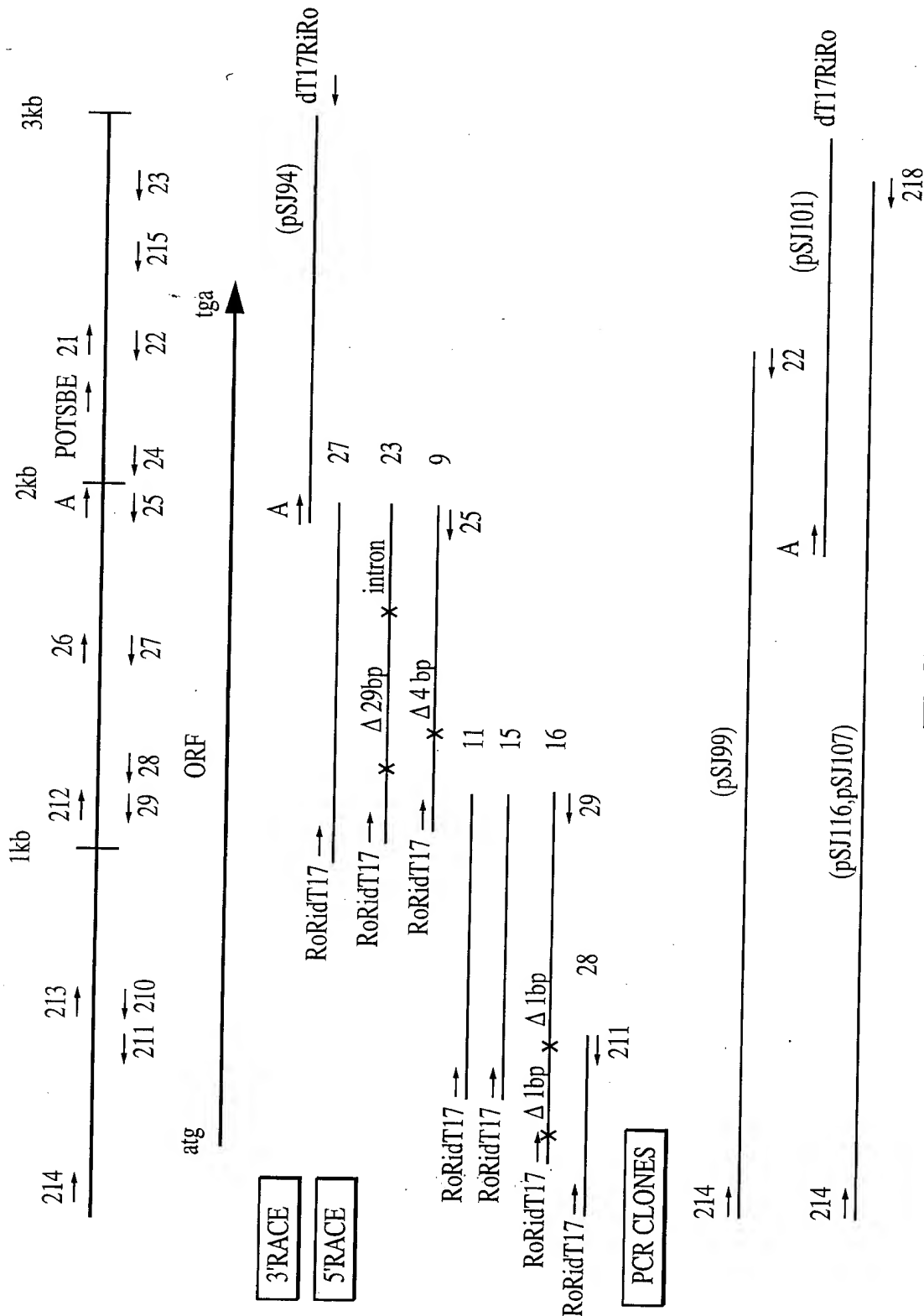


FIG. 1



Bgl II
ACAGGAATAACTTATAGAGAGTGGGACAGGAGCTACGTGGGTGCAATGATTCGAGATTTCAATAAATCGGAATCCTAATGACATGTATGACTCAGAAATGAGTGTGGTCTTGGGAG 840
TGTCCTTATATGAATACTCTCACCCGTGGTCTCGATGCACCCGACGTAACCTCTAAAGTTATTGACCTTAGGATTACGTTCTACAGTACTGAGTCTTACTCACACACAGACCCCTC
T G I T Y R E W A P G A T W A A L I G D F N N W N P N A D V M T O N E C G V W E
Nco I Xho I
ATCTTTTGGCCGAATAATGCAGATGGTTCCACCAATTCCTCCATGGTTCTCGAGTAAAGATACGATGATCCATCTGGCAACAAGATTCTATTCCTGCTTGGATCAAGTTCTCA 960
TAGAAAAACGGCTTATTACGTTACCAAGTGGTTAAGGGTACCAAGAGCTCATTTCTATGCGTACCTATGAGGTAGACCGTTGTTCTTAAGATAAAGCAACCTAGTTCAAGAGT
I F L P N N A D G S P P I P H G S R V K I R M D T P S G N K D S I P A W I K F S
GTTCAAGCACCAAGTCAACTCCCATATAATGGCATATATGATTCCTCCCGAGGAGGAGAGTATGTGTTCAAAAAATCCTCAGCCAAAGAGACCAAAATCACTTCGGATTTATGAGTGG 1080
CAAGTTCGTGGTCCACTTGAGGTATATTACCGTATATATGATGAGGAGGCTCCTCTCTTCATACACACAAGTTTTAGGAGTGGTTTCTCTGGTTTCTAGTGAAGCCCTAAATACTCAGC
V O A P G E L P Y N G I Y Y D P P E E E K Y V F K N P O P K R P K S L R I Y E S
Hind III
CAGCTTGGAAATGAGTAGTACGGACCCAGTAATTAACACATATGCCAACTTTAGAGATGATGTCCTTCCTCGCATCAAAAAGCTTGGCTACAAATGCTGTTCAAGTCAATGGCTATTCAGAG 1200
GTGCAACCTTACTCATCATGCTCGGTGCTAATTTGTTGATACGGTTGAAATCTTACTACAGAGGAGGCTAGTTTTCGAACCGATGTTACGACAAAGTCAAGTCAAGTCAAGTCTCTC
H V G M S S T E P V I N T Y A N F R D D V L P R I K K L G Y N A V O L M A I O E
Nsi I
CAATCATATTATGCTAGTTTGGGTATCACGTCACAAACTTTATGACGCTACGAGCCGCAATTTGGAACCTCCTGATGATTTAAAGTCCCTAGTAGATAAAGCTCACGAGTTAGGCTCTCTT 1320
GTAAGTATAATACCATCAAAACCCATAGTCAGTGTGTTGAAATATACGTCGATCGTCGGCTAAACCTTGAGGACTACTAAATTTTCAGGGATCATCTATTTTCAGTGTCTCAATCCAGAGAA
H S Y Y A S F G Y H V T N F Y A A S S R F G T P D D L K S L V D K A H E L G L L
Nsi I
GTTCTCATGGATATTGTTCAATAGCCATGCATCAACTAATACGTTGGATGGGTGAATATGTTTGTATGGTACGGATGGTCACTACTTTCATCTGGACCAAGGGTTCATCTTGGATGTGG 1440
CAAGAGTACCTATAACAAGTATCGGTACGTAGTTGATTAATGCAACCTACCCGACTTATACAAACTACCATGCCCTACCAAGTGAAGTGAAGACCTGGTGGCCCCAGTAGTAACCTACACC
V L M D I V H S H A S T N T L D G L N M F D G T D G H Y F H S G P R G H W M W
Nsi I
GACTCTCGCCCTTTTCAACTATGGGAGCTGGGAGGTTCTAAGGTTTCTTCTTCAAAATACAAAGTGGTGGTGGATGAGTACAACTTTGATGGGTTCAGATTGTATGGGGTCACTTCAATG 1560
CTGAGAGCGGAAAAGTTGATACCCCTCGACCTTCCAAGATTCCAAAGAAAGATTATGTTCCACCACCAACCTACTCATGTTCAAACTACCCCAAGTCTAAACTACCCCACTGAAGTTAC
D S R L F N Y G S W E V L R F L L S N T R W W L D E Y K F D G F R F D G V T S M

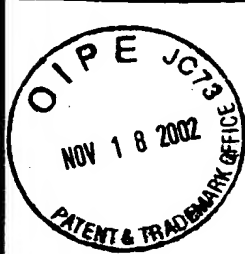
FIG. 2-2



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FIG. 2-4

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Attorney Docket No.: 054163-5001 Page 6 of 33



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130	140	150	160	170	180
TGATCGAAGGACCTCCTCTGCTTCCCTTCAACTCAAGAAGCGCGGTTTCTTAGGAG csbe2con. seq					
CGATCCGAGGACCTCCTCTGCTTCCCTTCAACTCAAGAAGCGCGGTTTCTTAGGAG 20con. seq					
TGATCGAAGGACCTCCTCTGCTTCCCTTCAACTCAAGAAGCGCGGTTTCTTAGGAG 35con. seq					
310	320	330	340	350	360
AGCCCTGGCACAGTTTCAGAAGAATCCAGGTGCTTACTGATGTTGAGAGTCTCATTTAT csbe2con. seq					
AGCCCTGGCACAGTTTCAGAAGAATCCAGGTGCTTACTGATGTTGAGAGTCTCATTTAT 20con. seq					
AGCCCTGGCACAGTTTCAGAAGAATCCAGGTGCTTACTGATGTTGAGAGTCTCATTTAT 35con. seq					
490	500	510	520	530	540
AATATATGACATAGATCCAAAGCTTGACAGGCTTTCGTCAACACCTAGATTACCGGTATTTC csbe2con. seq					
AATATATGACATAGATCCAAAGCTTGACAGGCTTTCGTCAACACCTAGATTACCGGTATTTC 20con. seq					
AATATATGACATAGATCCAAAGCTTGACAGGCTTTCGTCAACACCTAGATTACCGGTATTTC 35con. seq					
670	680	690	700	710	720
GGCACAGGAGCTACGTGGGCTGCATTGATTGGAGATTTCAATAACTGGAATCCTTAATGC csbe2con. seq					
GGCACAGGAGCTACGTGGGCTGCATTGATTGGAGATTTCAATAACTGGAATCCTTAATGC 20con. seq					
GGCACAGGAGCTACGTGGGCTGCATTGATTGGAGATTTCAATAACTGGAATCCTTAATGC 35con. seq					
850	860	870	880	890	900
CAACAAAGATTCTATTCCTGCTTGGATCAAGTTCTCAGTTCAAGCACCAGGTCAACTCCC csbe2con. seq					
CAACAAAGATTCTATTCCTGCTTGGATCAAGTTCTCAGTTCAAGCACCAGGTCAACTCCC 1805					
CAACAAAGATTCTATTCCTGCTTGGATCAAGTTCTCAGTTCAAGCACCAGGTCAACTCCC 35con. seq					
1030	1040	1050	1060	1070	1080
GCCAGTAATTAAACACATATGCCAACTTTAGAGATGATGCTGCTTCCTCGCATCAAAAAGCT csbe2con. seq					
GCCAGTAATTAAACACATATGCCAACTTTAGAGATGATGCTGCTTCCTCGCATCAAAAAGCT 20con. seq					
GCCAGTAATTAAACACATATGCCAACTTTAGAGATGATGCTGCTTCCTCGCATCAAAAAGCT 35con. seq					

FIG. 3-2



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1090	1100	1110	1120	1130	1140	1150	1160	1170	1180	1190
1164	TGGCTACA	ATGCTG	TTTCAG	CTCATG	GGCTATT	TCAAGAG	CAATTC	ATATTA	TGCTAG	TTTGGG
1085	TGGCTACA	ATGCTG	TTTCAG	CTCATG	GGCTATT	TCAAGAG	CAATTC	ATATTA	TGCTAG	TTTGGG
1081	TGGCTACA	ATGCTG	TTTCAG	CTCATG	GGCTATT	TCAAGAG	CAATTC	ATATTA	TGCTAG	TTTGGG
1270	1280	1290	1300	1310	1320	1330	1340	1350	1360	1370
1344	CCATGCAT	CAACTA	ATACGT	TGGCTG	GAATAT	GTGATG	GGTACG	GGGTCA	CTACTT	CACAACT
1265	CCATGCAT	CAACTA	ATACGT	TGGCTG	GAATAT	GTGATG	GGTACG	GGGTCA	CTACTT	CACAACT
1261	CCATGCAT	CAACTA	ATACGT	TGGCTG	GAATAT	GTGATG	GGTACG	GGGTCA	CTACTT	CACAACT
1450	1460	1470	1480	1490	1500	1510	1520	1530	1540	1550
1524	GTGATGG	GTTCAG	ATTTG	ATGGG	TACATG	TGTTCA	CCCAT	ATGATG	TACAC	CCCAT
1445	GTGATGG	GTTCAG	ATTTG	ATGGG	TACATG	TGTTCA	CCCAT	ATGATG	TACAC	CCCAT
1441	GTGATGG	GTTCAG	ATTTG	ATGGG	TACATG	TGTTCA	CCCAT	ATGATG	TACAC	CCCAT
1630	1640	1650	1660	1670	1680	1690	1700	1710	1720	1730
1704	TGGTGA	AGATG	TAGT	GGAAT	GCCAA	CAGTT	TGCA	TTTCC	GGTTG	CAATG
1625	TGGTGA	AGATG	TAGT	GGAAT	GCCAA	CAGTT	TGCA	TTTCC	GGTTG	CAATG
1621	TGGTGA	AGATG	TAGT	GGAAT	GCCAA	CAGTT	TGCA	TTTCC	GGTTG	CAATG
1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910
1884	AAAGTG	TGTTCT	TATG	CTGAA	GTCA	TGAC	CAAACT	PATTTG	CAATTT	GGCTG
1805	AAAGTG	TGTTCT	TATG	CTGAA	GTCA	TGAC	CAAACT	PATTTG	CAATTT	GGCTG
1801	AAAGTG	TGTTCT	TATG	CTGAA	GTCA	TGAC	CAAACT	PATTTG	CAATTT	GGCTG
1990	2000	2010	2020	2030	2040	2050	2060	2070	2080	2090
2064	CGGAGA	AGGATA	TTTGA	ATTTT	TGGGAA	ATGA	TTTTC	CAAGAG	CGCATC	CCCCA
1985	CGGAGA	AGGATA	TTTGA	ATTTT	TGGGAA	ATGA	TTTTC	CAAGAG	CGCATC	CCCCA
1981	CGGAGA	AGGATA	TTTGA	ATTTT	TGGGAA	ATGA	TTTTC	CAAGAG	CGCATC	CCCCA
2170	2180	2190	2200	2210	2220					
2244	GCAAGAG	TTTGAT	CAAGCA	ATTC	AGCAAT	TC	AGAT	CTTGA	AGCC	CTATG
2165	GCAAGAG	TTTGAT	CAAGCA	ATTC	AGCAAT	TC	AGAT	CTTGA	AGCC	CTATG
2161	GCAAGAG	TTTGAT	CAAGCA	ATTC	AGCAAT	TC	AGAT	CTTGA	AGCC	CTATG

FIG. 3-3



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1200	1210	1220	1230	1240	1250	1260	
ATGATTAAAGTCCCTAGATAGATAAAGCTCAGAGTTAGGTTCTTTGTTCTCTCATGGATATGTTTCATAG							csbe2con. seq
ATGATTAAAGTCTCTAATAGATAAAGCTCAGAGTTAGGTTCTTTGTTCTCTCATGGATATGTTTCATAG							20con. seq
ATGATTAAAGTCTCTAATAGATAAAGCTCAGAGTTAGGTTCTTTGTTCTCTCATGGATATGTTTCATAG							35con. seq
1380	1390	1400	1410	1420	1430	1440	
TCAACTATGGGAGCTGGGAGTTCTTAAGTTCTTTTCAAAATCAAGGTGGTGGTGGATGAGTACAA							csbe2con. seq
TCAACTATGGGAGCTGGGAGTTCTTAAGTTCTTTTCAAAATCAAGGTGGTGGTGGATGAGTACAA							20con. seq
TCAACCATGGGAGCTGGGAGTTCTTAAGTTCTTTTCAAAATCAAGGTGGTGGTGGATGAGTACAA							35con. seq
1560	1570	1580	1590	1600	1610	1620	
TAGATGCTGTGGTTTATCTGATGCTGTGGAATGATATGATTCATGCTCTTCCAGAGGCTGTCAACAT							csbe2con. seq
TAGATGCTGTGGTTTATCTGATGCTGTGGAATGATATGATTCATGCTCTTCCAGAGGCTGTCAACAT							20con. seq
TAGATGCTGTGGTTTATCTGATGCTGTGGAATGATATGATTCATGCTCTTCCAGAGGCTGTCAACAT							35con. seq
1740	1750	1760	1770	1780	1790	1800	
TTCAGAGAGAGATGAAGATTGGAAATGGGTGACATTGTACATATGCTGACCAACAGCGGTGGTTGGA							csbe2con. seq
TTCAGAGAGAGATGAAGATTGGAAATGGGTGACATTGTACATATGCTGACCAACAGCGGTGGTTGGA							20con. seq
TTCAGAGAGAGATGAAGATTGGAAATGGGTGACATTGTACATATGCTGACCAACAGCGGTGGTTGGA							35con. seq
1920	1930	1940	1950	1960	1970	1980	
CATCTACTCTCTTATAGATCGTGGATAGCAATTGCACAAAATGATCAGGCTTATACCATGGCTTAGG							csbe2con. seq
CATCTACTCTCTTATAGATCGTGGATAGCAATTGCACAAAATGATCAGGCTTATACCATGGCTTAGG							1805
CATCTACTCTCTTATAGATCGTGGATAGCAATTGCACAAAATGATCAGGCTTATACCATGGCTTAGG							35con. seq
2100	2110	2120	2130	2140	2150	2160	
ACACAGTTATGATAAATGCCCTCTAGATTGATCTAGCTAGCTACACATATCTAGATATCATGGAAT							csbe2con. seq
ATTACAGTTATGATAAATGCCCGGTAGGTTGATCTAGGCAATTCAAGCTCTGAGATATCATGGAAT							20con. seq
ATTACAGTTATGATAAATGCCCGGTAGGTTGATCTAGGCAATTCAAGCATCTGAGATATCATGGAAT							35con. seq

csbe2con. seq
20con. seq
35con. seq

FIG. 3-4



120
CTCTCTAACTTCTCAGCGAATGGGACACTACACCATATCAGGAATACGTTTTCCTGTCCTCCACTCTGCAAACTCAATCTACGGCTTCCATGGCTATCGGAGGACCTCTCTTGGC
GAGAGATTGAAGA??GCTTTACCCCTGTGATGTGGTATAGTCCTTATGCAAAAGGAACACGAGGTGAGACGT??AGAGTTAGATGGCCGGAAGTACCGATAGCCTCTGGAGGAGAACGG
M G H Y T I S G I R F P C A P L C K S O S T G F H G Y R R T S S C
240
TTTTCCTTCAACTTCAAGGAGCGCTTTCTCAGGAGGGCTTCTCTGGAAGTCATCTCATGAATCTGACTCTCAATGTAATGGTCACTGCTTCTAAAAGAGTCTTCTCCTGATGGTCCGA
AAAGGAAGTTGAAGTTCTCCGCAAAAGATCTCCAGAGAGACCTTTTCAGTAGAGTACTTAGACTGAGGAGTTTACATTACCACTGACGAGAGATTTTCTCAGGAAGGACTACCAGCCT
L S F N F K E A F S R R V F S G K S S H E S D S S N V M V T A S K R V L P D G R
360
TTCAATGCTATTCTTCTCAACAGATCAATTGGAGCCCCCTGGCACAGTTTTCAGAAAGTCCAGGTGCTTACTCATGTTGAGAGTCTCATTTATGGATGATAAGATTGTTGAAGATGAAG
AACTTACGATAAGAAGTGTCTAGTTAAACCTTCGGGACCGTGTCAAGTCTTCTTAGGTCACCAAGTACTACAACTCTCAGAGTAATACCTACTATTCTAACAACCTTCTACTTC
I E C Y S S S T D O L E A P G T V S E E S O V L T D V E S L I M D D K I V E D E
Xmn I
480
TAAATAAGATCTGTTCCCAATGCGGGAGACAGTTAGCATCAGAAATAATTGGAUCTAAACCAAGTCCATTCTCCACCCGCGAGAGGCAAGAAATATATGACATAGATCCAAGCTTGA
ATTATTCTTAGACAAGTTACGCCCTCTGTCAATCGTAGTCTTTTAACTAGATTGGTTCCAGGTAAAGAGGTGGCGCTCTCCCGTTTCTTATATACTGTATCTAGGTTCCGAAT
V N K E S V P M R E T V S I R K I G S K P R S I P P G R G O R I Y D I O P S L
Hinc II
10/33
600
CAGGCTTTCGTCAACACCTAGATTACCGGTATTCAAGTACAAAGACTCCGAGAGAAATTGACAAGTATGAAGGTAGTCTGGATGCAATTTCTCGTGGCTATGAAAAGTTTGGTTTCT
GTCCGAAGACAGTTGTGATCTAATGGCCATAAGTGTCAATGTTCTGAGGCTCTCTTTAACTGTTCAATCTCCATCAGACCTACGTAAGAGAGACCGATACCTTTTCAACCAAGA
T G F R O H L D Y R Y S O Y K R L R E E I O K Y E G S L O A F S R G Y E K F G F
720
CAGCGAGTAAACAGGAATAACTTATAGAGAGTGGCACCAGGAGCTACGTGGCTGCAATTGATTGGAGATTTCATAACTGGAATTCCTAATGCAGATGTCATGACTCAGAATGAGTGTG
GTGCGTCACTTTGTCCTTATTGAATATCTCTCACCCGTGGTCCCGATGCACCCGACGTAACCTCTAAAGTTATTGACCTTAGGATTACGTCACAGTACTGAGTCTTACTCACAC
S R S E T G I T Y R E W A P G A T W A A L I G D F N N W N P N A D V M T O N E C
Nco I
Hind III
Nsi I

FIG. 4-1
FIG. 4-2
FIG. 4-3
FIG. 4-4
FIG. 4

FIG. 4-1



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125+94. seq
TAGTTTTGGGTACCATGTCACAAACCTTTTTCACCTAGCAGCCGATTTGGAACCTCTGATGATTTGAAG
TAGTTTTGGGTA CA GTCACAAACCTTTT TCCA CTAGCAGCCGATTTGGAACCTCTGATGATTT AAG
TAGTTTTGGGTATCACGTCACAAACCTTTTATGTCAGTAGCAGCCGATTTGGAACCTCTGATGATTTAAAG
1140 1150 1160 1170 1180 1190 1200
130 140 150 160 170 180 190
125+94. seq
TCTTTAATAGATAAAGCTCATGACGTTAGGGCTGTTTCTCATGATGATTTGTTTCATAGCCATCGGCTCAA
TCT TAATAGATAAAGCTCA GAGTTAGG CT CTGTTCTCATGATGATTTGTTTCATAGCCATGC TCAA
TCTCTAATAGATAAAGCTCAGGATGAGGCTCTTCTGTTGTCATGATGATTTGTTTCATAGCCATGCATCAA
1210 1220 1230 1240 1250 1260 1270
200 210 220 230 240 250 260
125+94. seq
ATAATACGTTGGATGGGCTGAACATGTTGATGGTACGGATAGTCACCTACTTCCACTCCGGATCACGGGG
TAATACGTTGGATGGGCTGAAA ATGTTGATGGTACGGAT GTCACACTTT CACTC GGA CACGGG
1280 1290 1300 1310 1320 1330 1340
125+94. seq
CTAATACGTTGGATGGGCTGAACATGTTGATGGTACGGATAGTCACCTACTTCCACTCCGGATCACGGGG
1280 1290 1300 1310 1320 1330 1340
125+94. seq
TCATCATGTTGTTGCGGACTCTCGCCCTTTTCAACTATGGAAGCTGGGAGGTGTAAGATTTCTTTTCA
TCATCATGTTGTTGCGGACTCTCGCCCTTTTCAACTATGGAAGCTGGGAGGTGTAAGATTTCTTTTCA
1350 1360 1370 1380 1390 1400 1410
1340 1350 1360 1370 1380 1390 1400 1410
125+94. seq
AATGCAAGATGGTGGTGGAGAGACAGTTGATGGTACGGATAGTCACCTACTTCCACTCCGGATCACGGGG
AATGCAAG TGGTGGTGGAGAGACAGTTGATGGTACGGATAGTCACCTACTTCCACTCCGGATCACGGGG
1420 1430 1440 1450 1460 1470 1480
125+94. seq
AATGCAAGTGGTGGTGGAGAGACAGTTGATGGTACGGATAGTCACCTACTTCCACTCCGGATCACGGGG
1420 1430 1440 1450 1460 1470 1480
140 1410 1420 1430 1440 1450 1460 1470 1480
125+94. seq
ACACTCCCATGGTGGTGGAGAGACAGTTGATGGTACGGATAGTCACCTACTTCCACTCCGGATCACGGGG
ACAC C CATGG TTGCGAGTAG TTTTAC GGAACACTACATGA TACTTGGATATGCAACTGATGT
ACACCATCATGATGGTGGTGGAGAGACAGTTGATGGTACGGATAGTCACCTACTTCCACTCCGGATCACGGGG
1490 1500 1510 1520 1530 1540 1550
1480 1490 1500 1510 1520 1530 1540 1550
125+94. seq
AGATGCTGTGATTTTATTTGATGCTTGTGAATGATGATGATTCACGGTCTTTTCCCTGAGGCTGTACCAT
AGATGCTGTG TTTTATTTGATGCT TGAATGATGATGATGATTCACGGTCTTTTCCCTGAGGCTGTACCAT
1560 1570 1580 1590 1600 1610 1620
1550 1560 1570 1580 1590 1600 1610 1620
125+94. seq
GGTGAAGATGTTAGCGGAAGCCACATTTTGCATTCACGTAAGAGATGCGGTGTTGGATTTGATTACC
GGTGAAGATGTTAG CGGAAGCCACATTTTGCATTCACGTAAGAGATGCGGTGTTGGATTTGATTACC
1630 1640 1650 1660 1670 1680 1690
1620 1630 1640 1650 1660 1670 1680 1690
125+94. seq
GTCTCCACATGGCCATTGCCGATTAATGGATTCAGATTTCTTAAGAAGAGAGATGAGGACTGGGAAATGGG
GTCTCCACATGGC TTGC GATTAATGG TTGAGATT TT AGAAGAGAGATGA GA TGGAAATGGG
GTCTCCACATGGCTGTTGCTGATTAATGGGTTGAGATTTATTCAGAGAGAGATGAGGACTGGGAAATGGG
1700 1710 1720 1730 1740 1750 1760
1690 1700 1710 1720 1730 1740 1750 1760

FIG. 5-1

FIG. 5-2

FIG. 5-3

FIG. 5

FIG. 5-1



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125+94. seq
TGACATTGTGCATACACTCACCACAGAAAGTGGTTGAAAAAATGTGTCTTATGCTGAAAGTCATGAC
TGACATTGT CATA CT ACCAACAG GGTGGTTGAAAA TGIGTT CTTATGCTGAAAGTCATGAC
TGACATTGTACATATGCTGACCAACAGGGGTGGTTGAAAAAGTGTCTTCTTATGCTGAAAGTCATGAC
r690 r700 r710 r720 r730 r740 r750
r170 r1780 r1790 r1800 r1810 r1820 r1830
r760 r770 r780 r790 r800 r810 r820
125+94. seq
CAAGCTCTTGTGGTGACAAAACCTATTGCAATTTGGCTGATGGACAGGACATGACGACTTCATGGCTC
CA GC CTTGTGGTGACAAAACCTATTGCAATTTGGCTGATGGACAGGA ATGTA GACTTCATGGCTC
CAGGCCCTTGTGGTGACAAAACCTATTGCAATTTGGCTGATGGACAGGATATGATGACTTCATGGCTC
r830 r840 r850 r860 r870 r880 r890
r1840 r1850 r1860 r1870 r1880 r1890 r1900
125+94. seq
GTGACAGACCATCTACTCTCTTATAGATCGTGAATAGCATGCAAAAATGATCAGGCTTATTACCAT
TGACAGACCATCTAC CCTCT ATAGATCGTGA TAGCATTGCAAAAATGATCAGGCTTATTACCAT
TTGACAGACCATCTACCCCTCTCATAGATCGTGGATAGCATGCAAAAATGATCAGGCTTATTACCAT
r900 r910 r920 r930 r940 r950 r960
r1910 r1920 r1930 r1940 r1950 r1960 r1970
125+94. seq
GGGCTTAGCGGAGAGGATATTGCAATTTTATGGAAATGAATTTGGACATCCTGAGTGGATTGATTTT
GGG TTAGCGGAGAGGATATTGCAATTTTATGGAAATGAATTTGGACA CC GAGTGGATTGATTTT
GGGATTAGCGGAGAGGATATTGCAATTTTATGGAAATGAATTTGGACATCCTGAGTGGATTGATTTT
r970 r980 r990 r1000 r1010 r1020 r1030
r1980 r1990 r2000 r2010 r2020 r2030 r2040
125+94. seq
CCAAGAGGGATCGACATCTGCCCAATGGTAAGTAATTCAGGGAACAACACAGTTATGATAAATGCC
CCAAGAGG GATC ACATCT CCCA TGGTAA T TTCC GGAACAA ACAGTTATGATAAATGCC
CCAAGAGTGATCTACATCTTCCCAAGTGGTAATTTGTTCTCGGACAAATACAGTTATGATAAATGCC
r2050 r2060 r2070 r2080 r2090 r2100 r2110
r1040 r1050 r1060 r1070 r1080 r1090 r1100
125+94. seq
GTCGTAGATTGATCTAGTGTGATGACACTATCTAAGATATCATGGAATGCAAGAGTTTATCAGGCAAT
G CGTAG TTGATCTAGG AT CA A AUCT AGATATCATGGAATGCAAGAGTTTATGATCA GCAAT
GGCGTAGTTTGTATCTAGGCAATGCAAGCAATCTGAGATATCATGGAATGCAAGAGTTTATCAGGCAAT
r2120 r2130 r2140 r2150 r2160 r2170 r2180
r1110 r1120 r1130 r1140 r1150 r1160 r1170
125+94. seq
GCAACATCTTGAAGAAGCCTATGTTTTCATGCTTCTGAGCAACCAATATATATACCGAAGGATGAAGA
CA CATCTTGAAGAAGCCTATGTTTTCATGCTTCTGAGCAACCA ATATATCAGGAGGATGAAG G
TCAGCATCTTGAAGAAGCCTATGTTTTCATGCTTCTGAGCAACCAATATATATCAGGAGGATGAAGG
r2190 r2200 r2210 r2220 r2230 r2240 r2250
r1180 r1190 r1200 r1210 r1220 r1230 r1240
125+94. seq
GATCGGATCATTTGCTTTGAGAGGGGAAACCTTGTGTTTGTATTCACCTTTCATTTGGACTAACAGCTATT
GATCGGATCATTTGCTT GAGAGGGGAAACCT GTTTTGTATTCAA TTTCATTTGGACTA CAGCTATT
GATCGGATCATTTGCTTTCGAGAGGGGAAACCTTGTGTTTGTATTCAA TTTCATTTGGACTA CAGCTATT
r2260 r2270 r2280 r2290 r2300 r2310 r2320
r1250 r1260 r1270 r1280 r1290 r1300 r1310
125+94. seq
CAGATTACCGAGTTGGCTGCTTCAAGTCAGAAAGTACAAGATTTGTTGGACTCCGATGATGGCTTGT
C GATTACCGAGTTGGCTGCTT AAG CAGAAAGTACAAGAT GT TTGGA TC GATGAT TTGTT
CGGATTACCGAGTTGGCTGCTTAAAGCCAGAAAGTACAAGATGCTTGGATTACAGATGATCCTTTGTT
r2330 r2340 r2350 r2360 r2370 r2380 r2390

FIG. 5-2



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125+94. seq r1320 r1330 r1340 r1350 r1360 r1370 r1380
TGGAGGCTTCAACAGGCTTAGTCATGATGCCGAGCACTTACCTTTGACGGGTGGTATGATAACCGGCCT
116. seq TGGAGGCTT CAGGCTTAGTCATGATGC GAGCACTTCA CTTTGA GGGTGGTA GATAACCGGCCT
TGGAGGCTTTGGCAGGCTTAGTCATGATGCCGAGCACTTACCTTTGAGGGTGGTACGATAACCGGCCT
r2400 r2410 r2420 r2430 r2440 r2450 r2460
125+94. seq r1390 r1400 r1410 r1420 r1430 r1440 r1450
CGGTCCTTCATGGTATATGCACCATCTAGGACAGCAGTGGTCCATGCTTTAGTAGAAGATGAAG
CGGTCCTTCATGGTATATGCACCATCTAGGACAGCAGTGGTCCATGCTTTAGTAGAAGATGAAG
116. seq CGGTCCTTCATGGTATATGCACCATCTAGGACAGCAGTGGTCCATGCTTTAGTAGAAGATGAAG
r2470 r2480 r2490 r2500 r2510 r2520 r2530

FIG. 5-3

FIG. 6

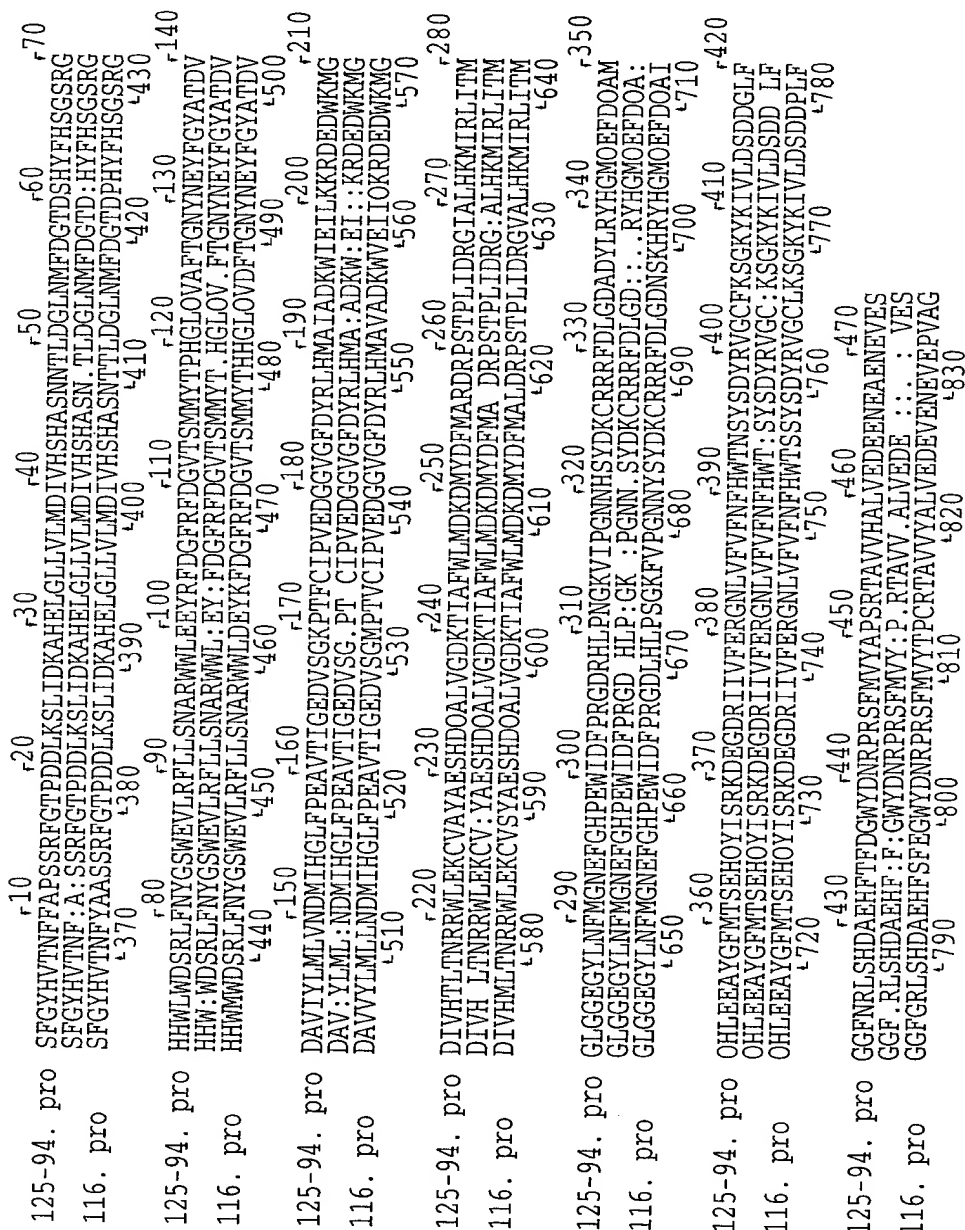
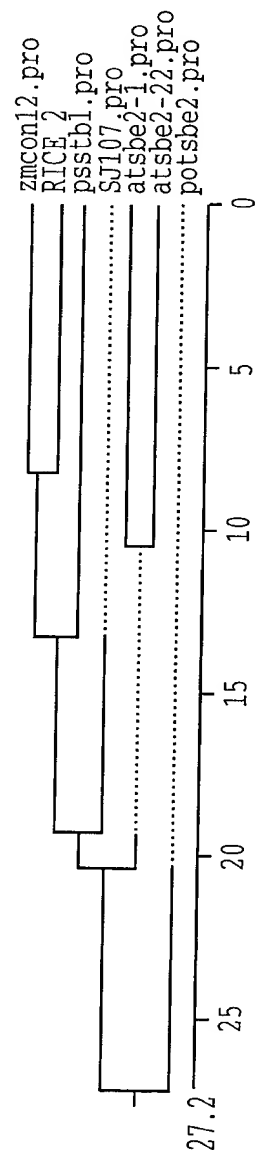


FIG. 7





MA - Y T I S G V R F P - V P S - - K G A V S - - G F N G D R R N S S - V S F F L K K H S - S L S R K K V F A G K V S	10	20	30	40	50
M G H Y T I S G I R F P - C A P L C K S O S T - - G F H G Y R R T S S C L S F N F K E - - A F S R R R V F S G K S S	11				
M V - Y T L S G V R F P P - T V P S V Y K S N G F - - S S N G D R R R N A N - V S S V F L K K N D S S - - L S S R R K I L A E K F S S	12				
M V - Y T L S G I R F F P - V L P S - - S L H K S - - T L R C D D L R R A R S S - H V S S F F L K K N D S S - - L S S R R K I L A E K F S S	13				
R A R - - S S L T P S - - V P R F F T - L L P S - - K K P L N T - - R P L N T - - G A V R R A P P A G A R S W R A - L S S F F L K K H T S L S G R R F P G A V V G	14				
R A - - S S L T P S - - V P R F F T - L L P S - - K K P L N T - - R P L N T - - G A V R R A P P A G A R S W R A - L S S F F L K K H T S L S G R R F P G A V V G	15				
M A - - S S L T P S - - V P R F F T - L L P S - - K K P L N T - - R P L N T - - G A V R R A P P A G A R S W R A - L S S F F L K K H T S L S G R R F P G A V V G	16				
M A A P A S A V P - - G S A A G L R A G A V R F P P A G A R S W R A - L S S F F L K K H T S L S G R R F P G A V V G	17				
- E S D G S S S A D O - E - - T - S D D S O V L T D V D - - T T E D G S E X X I E S S T V E - - - L T E V - -	18				
- R I E C Y S S S T D O L E A P G T V S E S O V L T D V - - S S L I M D D K I V E - - E S L I M D D K I V E - - S S D L Y S T E A - -	73				
T O S D S S S S L A D O L E N P D I T S E D D T O V L G N V D - - S S T M K E E A - - H A G N K - - F D T T E S S O A G V A S D V E G V K R L R E E I D K	73				
- D O D N S S S L A D O L E N P D I T S E D D T O V L G N V D - - S S T M K E E A - - H A G N K - - F D T T E S S O A G V A S D V E G V K R L R E E I D K	72				
H O S D S S S S A S D O V O S R D - - - - - S A O F O - - P A L D L O L P P G D G O K I Y E I D P M L T G Y R O H L D Y R Y S O Y K R L R E E I D K	71				
- N N L D - - - - - S A O F O - - P A L D L O L P P G D G O K I Y E I D P M L T G Y R O H L D Y R Y S O Y K R L R E E I D K	66				
G E S D G L A S R A D - - - - - S A O F O - - P A L D L O L P P G D G O K I Y E I D P M L T G Y R O H L D Y R Y S O Y K R L R E E I D K	66				
G E S D G M P V S A G - - - - - S A O F O - - P A L D L O L P P G D G O K I Y E I D P M L T G Y R O H L D Y R Y S O Y K R L R E E I D K	78				
S - S - - - - - K P R V I P P P G D G O K I Y E I D P M L T G Y R O H L D Y R Y S O Y K R L R E E I D K					
T V S I R K I - - G S - - K P R S I P P P G G L G O R I Y D I I D P P S L T G F F R O H L D Y R Y S O Y K R L R E E I D K	124				
N T S E E T I I D E S D - - R I R E R G I P P P G G L G O K I Y E I D I I D P P S L T G F F R O H L D Y R Y S O Y K R L R E E I D K	153				
S V H S D K - - K V D - - - - - K P K I I P P P G G L G O K I Y E I D I I D P P S L T G F F R O H L D Y R Y S O Y K R L R E E I D K	144				
S H S V D - - K E R G V - - - - - K P K I I P P P G G L G O K I Y E I D I I D P P S L T G F F R O H L D Y R Y S O Y K R L R E E I D K	135				
V - - - - - K E R G V - - - - - K P K I I P P P G G L G O K I Y E I D I I D P P S L T G F F R O H L D Y R Y S O Y K R L R E E I D K	101				
- - - - - K E R G V - - - - - K P K I I P P P G G L G O K I Y E I D I I D P P S L T G F F R O H L D Y R Y S O Y K R L R E E I D K	110				
- - - - - K E R G V - - - - - K P K I I P P P G G L G O K I Y E I D I I D P P S L T G F F R O H L D Y R Y S O Y K R L R E E I D K	131				

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FIG. 8

FIG. 8-1

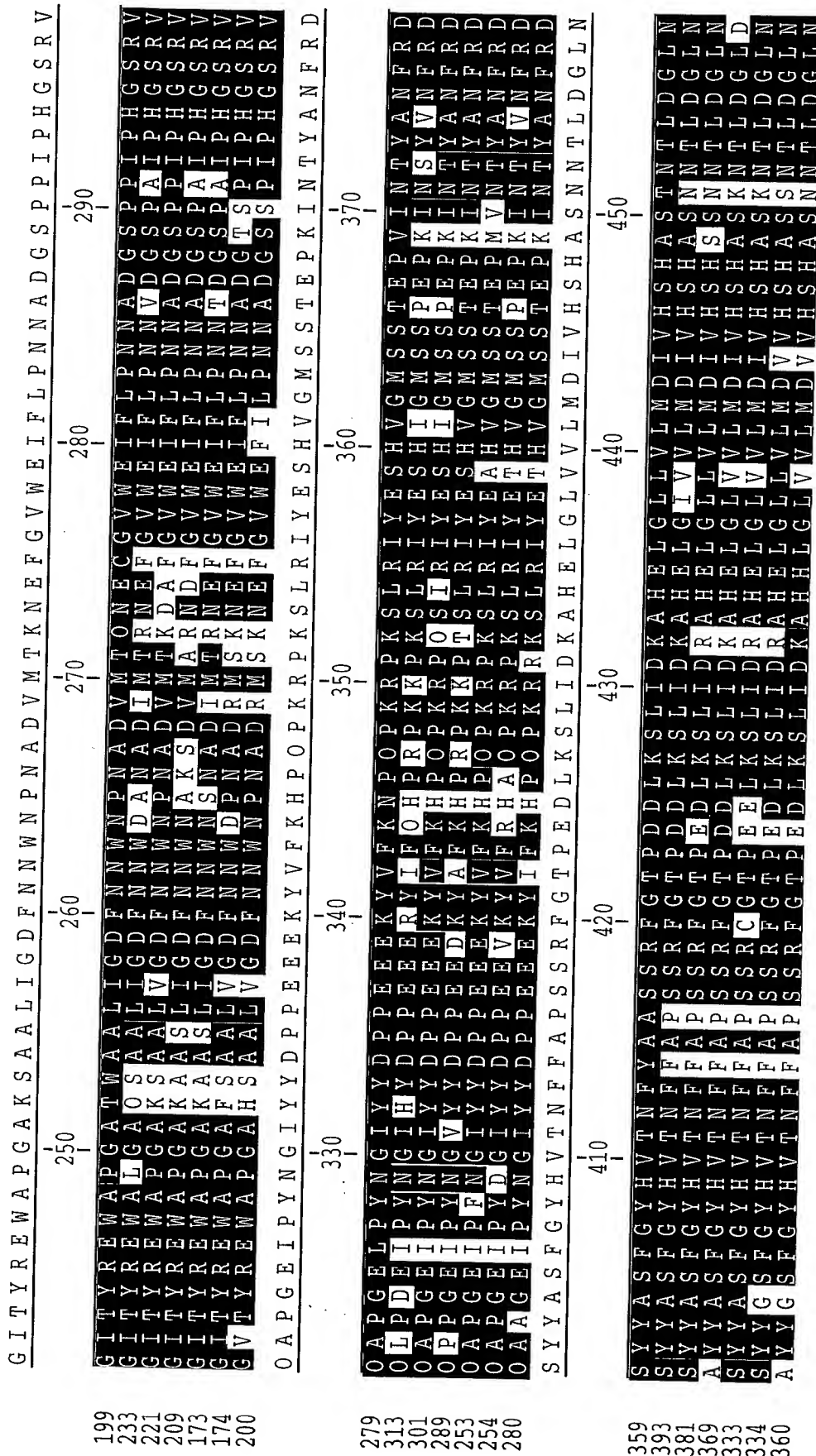
FIG. 8-1	FIG. 8-2
FIG. 8-3	FIG. 8-4
FIG. 8-5	FIG. 8-6
FIG. 8-7	FIG. 8-8



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YSSDSSSVAAASEK--VLVPG	Majority	SJ107.pro
60	70	potsbe2.pro
80		psstbl.pro
HESSDSSNVNVTASKR--VLPPDG		atsbe2-1
YNSSEFRPSTVAASGK--VLVPPG		atsbe2-2
YRDSSETKSSSTIAESDK--VLIPPE		zmcon12.pro
YDSDSSSLATITASEK--L--RRG		RICE 2
AEFDSSSSOARAAASAKAVMMIPE		
CSCCTHGAOMRAAGAS-GEVMMIPE		
GSGGGRVAVRAAGAS-VNTEEO-KK--	Majority	
140	150	
160		
ELDFASSSLOLOEGGKLEESKTL		SJ107.pro
EKGSVTSSSLVDVNTDTOKKKT		potsbe2.pro
ISYKEDFAKMN		psstbl.pro
VRTEDOTMNV		atsbe2-1
ELA--		atsbe2-2
YEGGLEAFSRGYEKFGRFSAT		zmcon12.pro
220	230	RICE 2
240		
YEGGGLDADFSSRGYEEKFGFFSEET		SJ107.pro
YEGGGLDADFSSRGYEEKFGFFSSAAT		potsbe2.pro
YEGGGLDADFSSRGYEEKFGFFSSAAT		psstbl.pro
YEGGGLDADFSSRGYEEKFGFFSSAAT		atsbe2-1
YEGGGLDADFSSRGYEEKFGFFSSAAT		atsbe2-2
YEGGGLDADFSSRGYEEKFGFFSSAAT		zmcon12.pro
YEGGGLDADFSSRGYEEKFGFFSSAAT		RICE 2

FIG. 8-2



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FIG. 8-3

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PENNSYLVANIA AVENUE, NW, WASHINGTON, DC 20004
Inventor: Stephen A. JOBLING et al. Serial No. 09/297,703
Attorney Docket No.: 054163-5001 Page 20 of 33



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LATDVDAVVYLLMLVNDLIHGL										Majority									
540										SJ107.pro									
550										potsbe2.pro									
560										psstbl.pro									
570										atsbe2-1.pro									
580										atsbe2-2.pro									
590										zmcon12.pro									
600										RICE 2									
610										Majority									
620										SJ107.pro									
630										potsbe2.pro									
640										psstbl.pro									
650										atsbe2-1.pro									
660										atsbe2-2.pro									
670										zmcon12.pro									
680										RICE 2									
690										Majority									
700										SJ107.pro									
710										potsbe2.pro									
720										psstbl.pro									
730										atsbe2-1.pro									
740										atsbe2-2.pro									
750										zmcon12.pro									
760										RICE 2									

FIG. 8-6



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Bcl I Nco I
ATGGAAGGATAATGATCTTACATGGCTCTTGACAGACCATCTACTCCTCTCATAGATCGTGGAGTAGCATTTGCACAAATGATCAGGCTTATACCA 100
TACCTGTTCCCTATACATACCTGAAGTACCGGAACTGTCTGTGATGAGAGAGATATAGCACCTCATCTGTAACGTTGTTTACTAGTCCGAAATATGGT
M D K D M Y D F M A L D R P S T P L I D R G V A L H K M I R L I T
TGGATTAGCGGAGAGGATATTTGAATTTATGGGAAATGAATTTGGACACCCCGAGTGGATTTGATTTTCCAAAGGTTGATCTACATCTTCCAGTGG 200
ACCTTAATCCGGCTCTTCCCTATAAACCCTTAAACCTTAAACCTGTGGGCTCACCTAACATAAAGTTTCCACTAGATGTAGAAGGTCACC
M G L G G E G Y L N F M G N E F G H P E W I D F P R G D L H L P S G
EcoR V Bcl I
TAAATTTGTTCTCTGGGAACAATTACAGTTATGATAAATGCGGCGTAGGTTTGTATCTAGGCAATTCAAAGCGTCTGAGATATCATGGAATGCAAGAGTTT 300
AATTAAACAAGGACCTTGTAAATGTCAATACTATTTACGGCCGCATCCAAACTAGATCCGTTAAGTTTCGCAGACTCTATAGTACCTTACGTTCTCAAA
K F V P G N N Y S Y D K C R R F D L G N S K R L R Y H G M O E F
GATCAAGCAATTCAGCATCTTGAAGAAGCCTATGGTTTCATGACTTCTGAGCACCAATACATATCACGGAAGGATGAAAGGATCGGATCAATGTCTTCG 400
CTAGTTGTTAAGTCGTAGAACTTCTTCGGATACCAAGTACTGAAGACTCGTGGTTATGTATAGTGCCCTTCCCTACTTTCCTAGCCTAGTAACAGAAAGC
D O A I O H L E E A Y G F M T S E H O Y I S R K D E R D R I I V F
AGAGGGAAACCTCGTTTGTATTTCAATTTTCATTCGACTAGCATATTCGGATTACCGAGTTGGCTGCTTAAAGCCAGGAAGTACAAAGATAGTCTT 500
TCTCCCTTTGGAGCAAAACATAAGTTAAAGTAACTGATCGTCGATAGCCTAAGCTGATGAGTCAACCGAGCAATTCGGTCTCTTTCATGTTCTATCAGAA
E R G N L V F V F N F H W T S S Y S D Y R V G C L K P G K Y K I V L
GGATTGATGATCTTGTGGAGGCTTTGGAGGCTTTAGTCATGATGATGAGGCTTCAAGGTTGATGAGGCTTCAAGGCTTCAAGGCTTCAAGGCTTCAAGGCTT 600
CCTAAGTCTAGGAAACAAACCTCCGAAACCGTCCGAATCAGTACTACGTCGTGAGTGAAGTCCGAACTTCCACCATGCTTATTTGGCCGAGCTAGGAAG
D S D D P L F G G F G R L S H D A E H F S F E G W Y D N R P R S F
ATGGTGTACACACCATGTAGAACAGCAGTGGTCTATGCTTTAGTGAGGATGAAGTGGAGAAATGAAGTGAACCTGTGCGCGGTTAAGATATATCTTAGC 700
TACCACATGTGTGATCTTGTCTCACCAGATACGAAATCACCCTCTTCTACCTCTTACTTCCCTTGGACAGCGGCCAAATTCCTATATAGAAATCG
M V Y T P C R T A V V Y A L V E D E V E N E P V A G
AACAGGTTCTGAAGCAGGAATGCCATTTATGATCTTCTTATGTCATCTGCGGTGAACGAAATATATTTGAGCTTAAATTTGATGTACGGTCTTGGAG 800
TTGTCCAAGACTTCGTCCTTACGGTAAATAACTAGAAGGATACAGTAGACGCAACTTGTCTTTATATACTCGGATATTAACACAGTCCAGGAAACGTC
ATTTCCATCTCTGTTCTTGGTATTTTGTGTCATGATAACATAATCAAGACCAATAGGAAACGAGGTTACATGCTAGCTTCCATCATCATAGGGAG 900
TAAAGGTAGGACCAAGAACCATAAACAACAGTACTATTTGCTATTTAGTTTCTGCTTATCTCTTGGCTTCCCAATGTACGATCGAAGGTAGTAGTATCCCTC
Bcl I
CTCAGACCTCTAAACCATAAATCTTCAAGCTGCTCGGTTGGTAGTATGTTATGTTGGTACTTTGCAATCTTAAATTTATCATGATCGCTGTGGATGCTA 1000
GAGTCTGGAGGATTTGGTATTTAGAAGTTTCGACGGACGCAAGCCATCATACAATACACCATGAACCGTTAGAATTTAATAGTACTAGCGACACCTTAGCAT
ACTATGACAAATTTGCTATATATGCGCAACGAGGATTTTAAGTTTAAAAAACAACAAAAATCCATG
TGATACTGTTAAACATATATACGGTTGCTCTCTAAATTTCAAAATTTTCTTTGTTTCTTTTAGGTAC 1069

FIG. 9

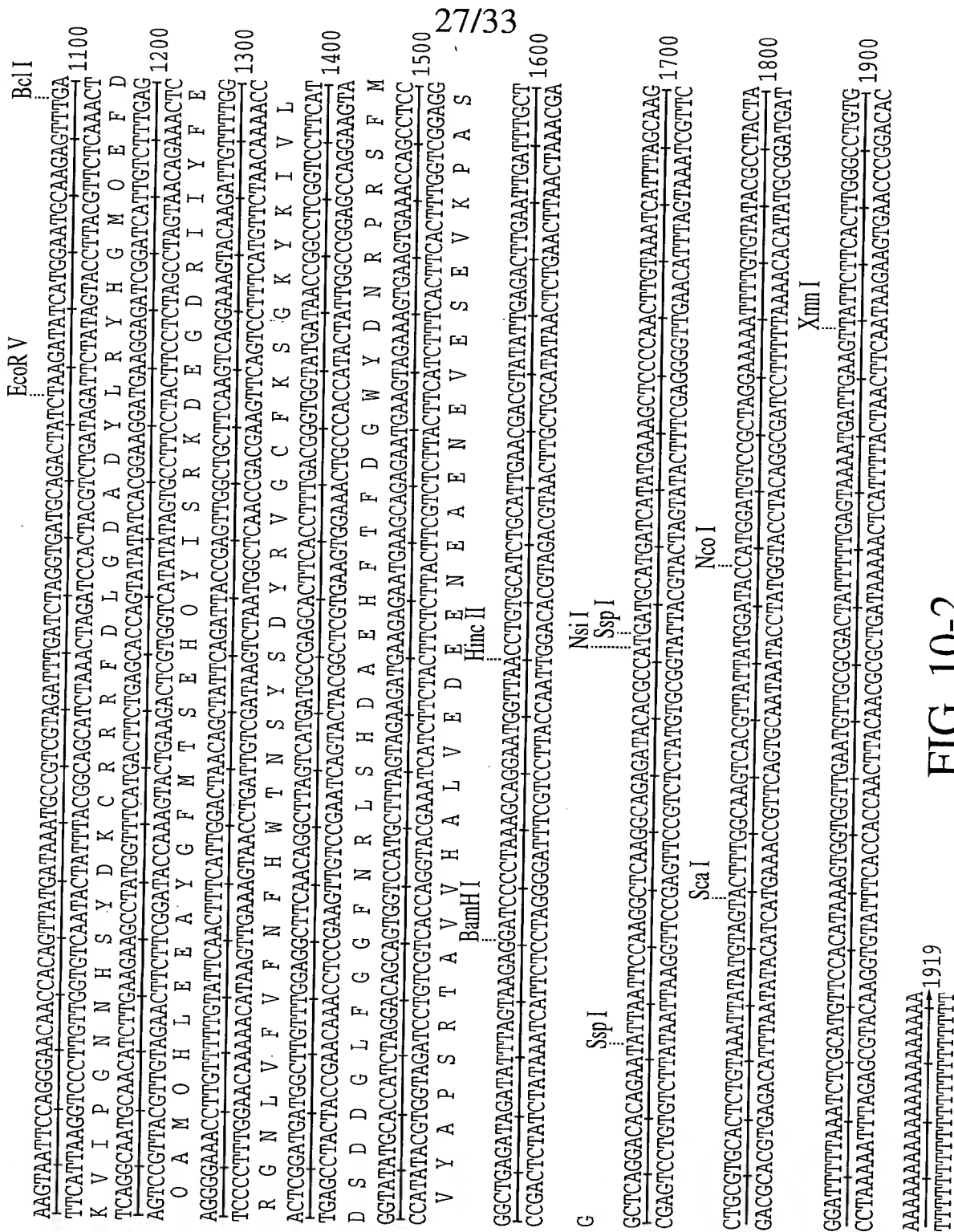
[illegible]

FIG. 10-1

FIG. 10-2

FIG. 10

FIG. 10-1





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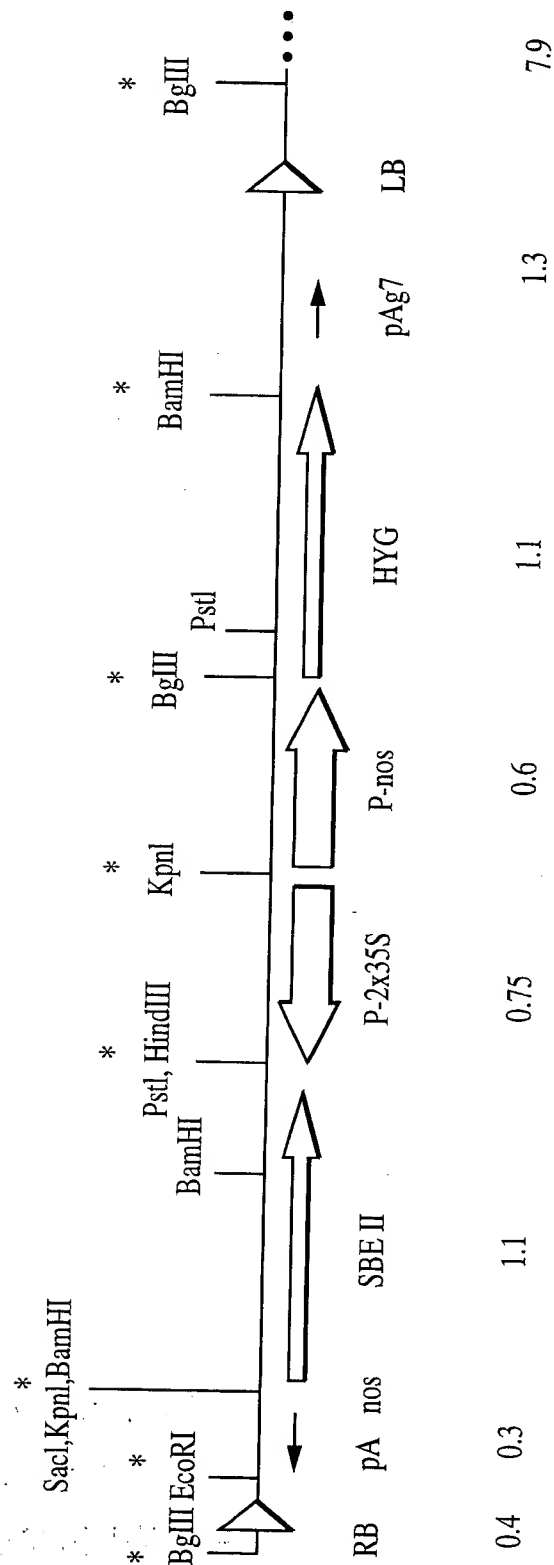


FIG. 11



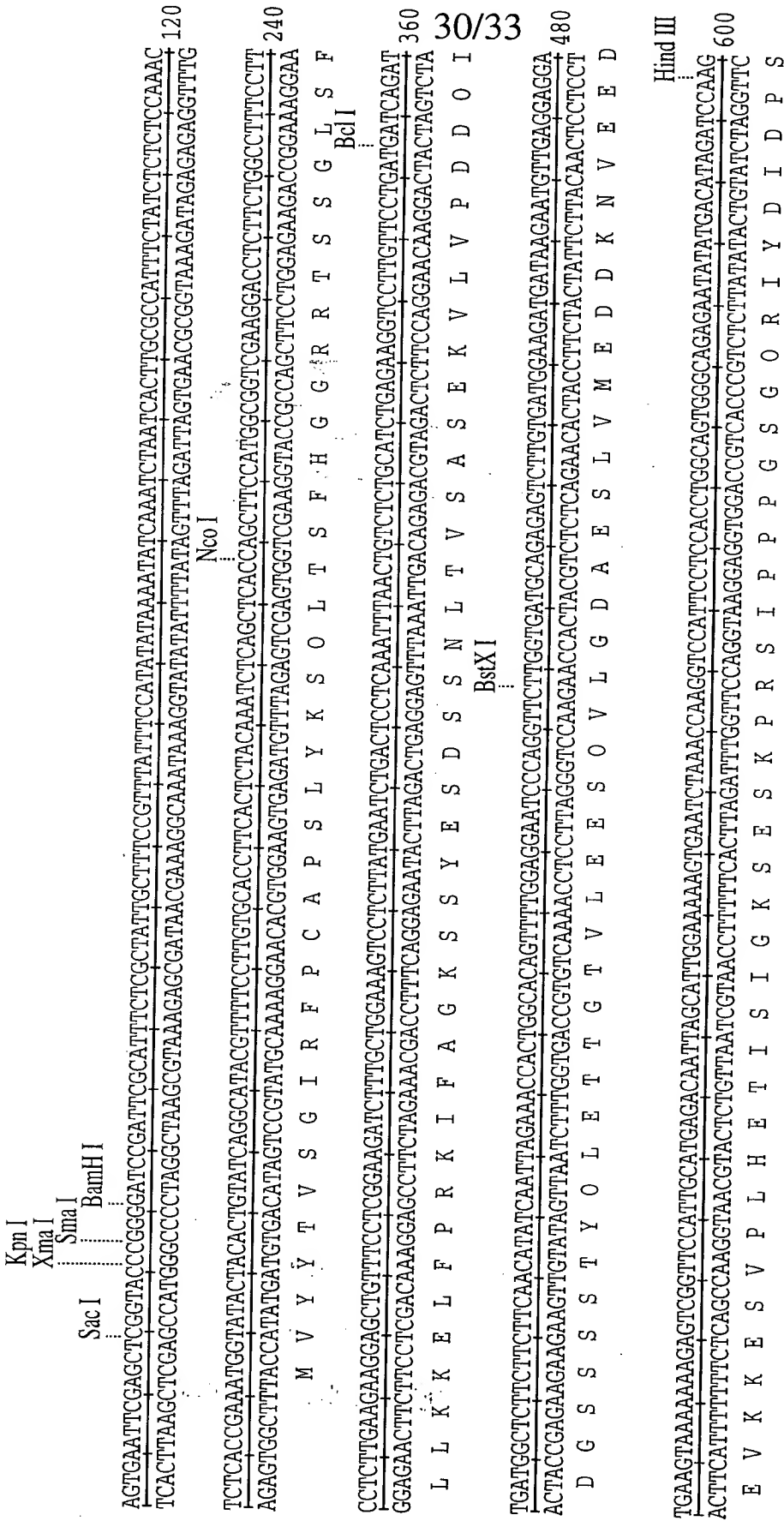
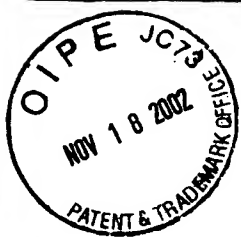


FIG. 13-1

- FIG. 13-1
- FIG. 13-2
- FIG. 13-3
- FIG. 13-4
- FIG. 13



Nsi I
CTTGGCAGGTTTCCGTCAGCATCTTGACTACCGATATTTACAGTACAAAAGGCTGCTGAGGAAATTGACAAGTGAAGGTGTTTGGATGCAATTTCTCTCTGGGATTTGAAAAAGTTTGG 720
GAAACCGTCCAAAGGCAGTCGTAGAACTGATGGCTATAAGTGTCTAATGTTTCCGACGCACTCTTTAACTGTTCATACTTCCACCAACCTACCTAAGAGAGACGACCTAAACCTTTTCAAAACC
L A G F R O H L D Y R Y S O Y K R L R E E I D K Y E G G L D A F S R G F E K F G
TTTCTTACCGAGTGAACAGGAATAACTTATAGGGAATGGGCACCTCGAGCTACGTGGGCTGCACTTATTGGAGATTTCAACAATTGGAATCTTAATGCAGATGTTCATGACTCGGAATGA 840
AAAGAAATCGCTACCTTTGCTCTTATTGAATATCCCTTACCCGTGGACCTCGATGCAACCCGACGCGTAATAACCTTAAAGTTGTTAACCTTAGGATTACGTTCTACAGTACTGAGCCCTTACT
F L R S E T G I T Y R E W A P G A T W A A L I G D F N N W N P N A D V M T R N E
GTTTGGTCTGGGAGATTTTTCGCAAAATAACGCAGATGGTTTACCACCAATCTCTCATGTTCTCGAGTAAAGATACGCATGGATCTCCATCTGGCATCAAAGATTCATTCCTGC 960
CAACCCACAGACCCCTCTAAAAAAACGGTTTATTGCGTCTACCAAGTGGTGAAGGAGTACCAAGAGCTCATTTCTATGCGTACCTATGAGGTAGACCGTAGTTCTTAAGTTAAGGACG
F G V W E I F L P N N A D G S P P I P H G S R V K I R M D T P S G I K D S I P A
TTGGATCAAGTTCTCAGTTCAGGCACCTGGTGAATCCCATACAAATGCCATATACATATGATCCACCAAGAGGAGAGAAAGTATGTGTTCAAAACATCTCTCAGCCAAAGAGACCAAAATCACT 1080
AACCCTAGTTCAAGAGTCAAGTCCGTGGACCACTTTAGGGTATGTACGGTATATGATACACTAGTGGTGGTTTCTCTCTCTTCTATACACAAAGTTGTAGGAGTCGGTTTCTCTGGTTTACTGA
W I K F S V O A P G E I P Y N A I Y Y D P P K E E K Y V F K H P O P K R P K S L
Nde I
TAGGATTTATGAATCTCATGTTGGGATGAGTAGTATGGAGCCCAATAATTAAACACATATGCAACTTTACAGATGATATGCTTCCCTCGCATCAAAAAGCTTGGCTTACAAATGCTGTTCAGAT 31/33
ATCCTAAATACCTTAGAGTACAACCCCTACTCATCATACCTCGCTTATTAATTGTGTATACCGTTGAAATCTCTACTATACGAAGGAGCGGTAGTTTTCGAACCGATGTTACGACAACTCTA 1200
R I Y E S H V G M S S M E P I I N T Y A N F R D D M L P R I K K L G Y N A V O I
Kpn I
CATGCTATTCAAGAGCATTCCTTATTATGCTAGTTTGGGTACCATGTCACAAACTTTTTCACCTACGACCGGATTTTGGAACTTCTGTGATGATTTGAAGTCTTTAAATAGATAAAGCTCA 1320
GTACCCGATAAGTTCTCGTAAGGATAATACGATCAAAACCCATGGTACAGTGTGTTGAAAAACGTTGGATCGCTCGGCTTAAACCTTGAGGACTACTAACTTCAGAAATATCTATTTCCGAGT
M A I O E H S Y Y A S F G Y H V T N F F A P S S R F G T P D D L K S L I D K A H
TGACTTAGGGCTGCTTGTCTCATGGATATTTGTTTCATAGCCATGCGTCAAAATAATACCTTGGATGGGCTGAACATGTTTGTATGGTACGGATAGTCACTACTTCCACTCCGGATCAACGGG 1440
ACTCAATCCCGACGAACAAGAGTACCTATAACAAGTATCGGTACGCACTTTATTATGCAACCTACCCGACTTGTGTAACAACTACCATGCTTATCAGTATGATGAAGGTGAGGCCCTAGTGCCTCC
E L G L L V L M D I V H S H A S N N T L D G L N M F D G T D S H Y F H S G S R G

FIG. 13-2



TCATCATTTGGTCTGGGACTCTCGCCTTTTCAACTATGGAAGCTGGAGGCTGCTAAGATTTCTTTTCAAAATGCAAGATGGTGGTTGGAAGAGTACAGGTTTGATGGTTTTCAGATTGA 1560
AGTAGTAACCAACACCTGAGACGGGAAAGTTGATACCTTCGACCCCTCCAGGATCTTAAGAAGAAAGTTTACGTTTACCACCAACCTTCTCATGTGCCAACTACCAAAATCTAAACT
H H W L W D S R L F N Y G S W E V L R F L L S N A R W W L E E Y R F D G F R F D
Nco I
Sca I
TGGGTGACTTCCATGATGATACACTCCCCATGGGTTCAGGTAGCTTTTACTGGCAACTACAAATGATGACTTTTGGATATGCAACTGATGATGCTGTGATTTTATTTGATGGTTGTGA 1680
ACCCACTGAAGGTACTACATGTGAGGGGTACCCCAACGTCATCGAAATGACCGTTGATGTTACTCATGAAACCTATACGTTGACTACATCTACGACACTAAATAAACTACGAACACTT
G V T S M M Y T P H G L O V A F T G N Y N E Y F G Y A T D V D A V A Y L M L V N
TGATATGATTCACGGTCTTTTCCCTGAGGCTGTACCAATGGTGAAGATGTTAGCGGAAAGCCAAACATTTTGCAATCCAGTGGAGATGGTGGTGTGGATTTGATTAACCGTCTCCACAT
ACTATACTAAGTCCAGAAAGGACTCCGACAAATGGTAACCACTTCTACAATCGCCTTTCCGTTGTAAACGTAAGGTCACTTCTACCCACCAACCTAACTAAATGCGCAGAGGTGA 1800
D M I H G L F P E A V T I G E D V S G K P T F C I P V E D G G V G F D Y R L H M
GGCCATTCGCCGATAAATGGAATGATTTTAAAGAGAGATGAGGACTGGAAATGGGTGACATTTGTGCAATACACTCACCAACAGAGGTTGGTGGAAAAATGTGTCTTATGCTGA 1920
TTCAGTACTGGTTCGAGAACCAACCACTGTTTGTATAAGTAAACCGACTACCTGTCTCTGTATGCTGAAAGTACCGAGCACTGTCTGGTAGATGAGGAGAATATCTAGCACCTTATCG
A I A D K W I E I L K K R D E D W K M G D I V H T L T N R R W L E K C V A Y A E
AAGTCATGACCAAGCTCTTGTGGTGACAAACTATTCATTTTGGCTGATGGCAAGGACATGACGACTTCATGGCTCGTGACAGACCATCTACTCCTCTTATAGATCGGTGGAATAGC
TTCAGTACTGGTTCGAGAACCAACCACTGTTTGTATAAGTAAACCGACTACCTGTCTCTGTATGCTGAAAGTACCGAGCACTGTCTGTGTAGATGAGGAGAATATCTAGCACCTTATCG 2040
S H D O A L V G D K T I A F W L M D K D M Y D F M A R D R P S T P L I D R G I A
Bcl I
Nco I
ATTGCACAAAATGATCAGGCTTATTACCATGGGCTTAGCGGAGAGGATATTGAAATTTTATGGGAAATGAATTTGGACATCCTGAGTGGATTTGATTTTCCAAGAGGGGATCGACATCT 2160
TAACGCTGTTTACTAGTCCGAATATGGTACCCGAAATCCGCTCTTCTATATAAATTAACCTTAAACCTTAGGACTCACCTAACCTAAAGGTTCTCCCTTAGCTGTAGA
L H K M I R L I T M G L G G E G Y L N F M G N E F G H P E W I D F P R G D R H L
Bcl I
GCCCCATGGTAAAGTAATTCAGGGAACCAACCAAGTTATGATAAATGCCGTCGTAGATTGATCTAGGTGATGCAGACTATCTAAGATATCATGGAATGCAAGCTTTGATCAGGCAAT 2280
CGGGTTACCATTTTCATTAAAGTCCCTGTTGGTGTCAATACTATTACGGCAGCATCTAAACTAGATCACTACGTCGTGATAGATTCTATAGTACCTTACGTTCTCAAACTAGTCCGTTA
P N G K V I P G N N H S Y D K C R R R F D L G D A D Y L R Y H G M O E F D O A M

FIG. 13-3



2400
GCAACATCTTGAAGAAGCCATATGGTTTCATGACTTCTGAGCACCAGTATATATACCGAAGGATCAAGGAGATCGGATCATTTGTCTTTGAGAGGGGAAACCTTGTTTGTATTCAACTT
CGTTGTAGAACTTCTTCGGATACCAAGTACTGAGAGACTCGTGGTCATATATAGTGCCTTCTACTTCTCTAGCCTAGTAACAGAACTCTCCCTTTGGAAACAAAACATAAGTTGAA
O H L E E A Y G F M T S E H O Y I S R K D E G D R I I V F E R G N L V F V F N F
2520
TCATTGGACTAACAGCTATTACAGATTACCGAGTTGGCTGCTTCAAGTCAGGAAAGTACAAGATTGTTTGGACTCGGATGATGGCTTCTTTGGAGGCTTCAACAGGCTTAGTCATGATGC
AGTAACCTGATTGTTCGATAAGTCTAAATGGCTCAACCGACGAAAGTTTCAGTCTCTTTTCATGTTTCAACAAACCTGAGCCCTACTACCGAACAACCTCCGAAAGTTGTCCGAATCAGTACTACG
H W T N S Y S D Y R V G C F K S G K Y K I V L D S D D G L F G G F N R L S H D A
2640
CGAGCACTTCACCTTGACGGGTGGTATGATAACCGGCCCTCGGTCTTCATGGTATATGACCATCTAGGACAGCAGTGGTCTATGCTTTAGTAGAAGATGAAGAGAAATGAAGCAGAGAA
GCTCGTAGAGTGGAAACTGCCCAACCATACTATTGGCCCGAGCCAGGAAGTACCATATACGTGGTAGATCCTGTCGTACACAGATACGAAATCATCTTCTTACTTCTTCTCTCTCT
E H F T F D G W Y D N R P R S F M V Y A P S R T A V V Y A L V E D E E N E A E N
BamHI
Hinc II
2760
TGAAGTAGAAAGTGAAGTGAACAGCCCTCCGGCTGAGATAGATATTTAGTAAGAGGATCCCTTAAAGCAGGAATGTTAACCTGTGCATCTGCATTGAACGACGTATATTGAGACTGGA
ACTTCATCTTTTCACTTCACTTTGGTCCGAGGCCGACTCTATCTATATAAATCATTTCTCTAGGGGATTTTCCTTACCAATTGGACAGCTAGACGTAACCTTGTGTCATATAACTCTGACCT
E V E S E V K P A S G
SalI
Nde I
Xba I
Hinc III
Pst I
2805
AATCCATATGACTAGTAGATCCCTCTAGAGTCGACCTGCAGGCATG
TTAGGTATACATGATCATCTAGGAGATCTCAGCTGGACGTCGGTAC

FIG. 13-4